

What is Claimed is:

1. A manufacturing method for manufacturing a product which includes a main body and a first module, comprising, manufacturing a first module and installing the first module to the main body respectively in a plurality of lines, wherein sequences of the plurality of lines are time-shifted, and the first module manufactured in one line is transferred to another line, and is installed to the main body in the other line.

2. The manufacturing method according to Claim 1, wherein the plurality of lines include the first line and the second line, manufacturing the first module, manufacturing the second module, and installing the first module to the main body are repeatedly executed in the first and second lines respectively, sequences of the first line and the second line are time-shifted, the first module manufactured in the second line is transferred to the first line and is installed to the main body in the first line, and the first module manufactured in the first line is transferred to the second line, and is installed to the main body in the second line.

3. The manufacturing method according to Claim 2, wherein the product is an exposure apparatus, the main body is a main body frame of the exposure apparatus, the first module is a stage system, and the second module is an illumination system.

4. The manufacturing method according to Claim 3, wherein after the main body is assembled and the illumination system is assembled in the first line, the stage system assembled in the second line is transferred to the first line, is installed to the main body in the first line, then the stage system is assembled in the first line, and is transferred to the second line.

5. The manufacturing method according to Claim 4, wherein the main body is assembled and the stage system is assembled in the second line, the assembled stage system is transferred to the first line, then the stage system assembled in the first line is transferred to the second line.

6. The manufacturing method according to Claim 5, wherein a projection system is mounted on the main body in each line before the stage system is transferred from the second and first lines to the first and second lines respectively.

7. The manufacturing method according to Claim 5, wherein an adjustment stage system is mounted on the main body in each line before the stage system is transferred from the second and first lines to the first and second lines respectively, and the adjustment stage system is removed after adjustment completes.

8. The manufacturing method according to Claim 3, wherein the stage system includes a stage which moves an object having a transfer pattern and a stage which moves an object to be exposed.

9. A manufacturing method for exposure apparatuses which exposes an object by an exposure beam via a projection system, wherein when an exposure apparatus is assembled by installing various mechanism sections to a main body frame in a plurality of manufacturing lines respectively, a predetermined mechanism section for which assembly and adjustment are executed in one manufacturing line is used as a mechanism section of the exposure apparatus which is being assembled and adjusted in another manufacturing line.

10. The manufacturing method for exposure apparatuses according to Claim 9, wherein the predetermined mechanism

section is a stage system which aligns the object.

11. A manufacturing method for exposure apparatuses which exposes a second object by an exposure beam via a first object and a projection system, comprising:

a first step of assembling a first main body frame of an exposure apparatus in a first manufacturing line;

a second step of assembling a second main body frame of an exposure apparatus in a second manufacturing line;

a third step of installing a first adjustment stage at a position where a stage which aligns the first object of the first main body frame is placed in the first manufacturing line, and assembling and adjusting an illumination system to be mounted on the first main body frame;

a fourth step of assembling and adjusting a stage system which aligns the first object and the second object using the second main body frame in the second manufacturing line; and

a fifth step of removing the first adjustment stage from the first main body frame in the first manufacturing line, mounting the projection system and the stage system removed from the second main body frame on the first main body frame to assemble the first exposure

apparatus.

12. The manufacturing method for exposure apparatuses according to Claim 11, wherein the second exposure apparatus is assembled and adjusted using the second main body frame in the second manufacturing line after the fifth step.

13. A manufacturing method for exposure apparatuses, wherein the fifth step further comprises:

a first sub-step for mounting the projection system on the first main body frame;

a second sub-step for mounting the second adjustment stage on the first main body frame at a position where the stage which aligns the second object is placed, in order to adjust the projection system;

a third sub-step for removing the first and second adjustment stages from the first main body frame; and

a fourth sub-step for mounting the stage system removed from the second main body frame on the first main body frame.

14. The manufacturing method for exposure apparatuses according to Claim 11, wherein the first adjustment stage further comprises a pin hole which is movable two-dimensionally and a photo-electric detector which detects

the exposure beam which passes through the pin hole by an optical Fourier transform surface, and dispersion of coherence factors of the illumination system is measured by the adjustment stage.

15. The manufacturing method for exposure apparatuses according to Claim 11, wherein the exposure apparatus is a scanning type exposure apparatus which moves the first object and the second object in a predetermined scanning direction synchronously to execute exposure, the first adjustment stage comprises a pin hole which is movable in a non-scanning direction which crosses the scanning direction, and a photo-electric detector which detects the exposure beam which passes through the pin hole, and substantially two-dimensional illuminance unevenness of the illumination system is measured using the adjustment stage.

16. The manufacturing method for exposure apparatuses according to Claim 13, further comprising a step of assembling and adjusting the illumination system to be mounted on the second main body frame by mounting the removed first adjustment stage at a position where the stage which aligns the first object of the second main body frame is placed in the second manufacturing line after removing the stage system from the second main body frame in the

second manufacturing line.

17. The manufacturing method for exposure apparatuses according to Claim 16, further comprising a step of mounting the removed second adjustment stage on the second main body frame at a position where the stage which positions the second object is placed in order to adjust the projection system in the second manufacturing line.

18. The manufacturing method for exposure apparatuses according to Claim 11, wherein the exposure apparatus is a scanning type exposure apparatus which moves the first object and the second object in a predetermined scanning direction synchronously to execute exposure, the first adjustment stage comprises a slit which can move in a non-scanning direction which crosses the scanning direction, and a photo-electric detector which detects the exposure beam which passes through this slit, and substantially two-dimensional illuminance unevenness of the illumination system is measured using the adjustment stage.

19. The manufacturing method for exposure apparatuses according to Claim 11, wherein the stage system installed to the second main body frame is adjusted based on a positional relationship between the first main body frame and the first

adjustment stage.

20. The manufacturing method for exposure apparatuses according to Claim 13, wherein the stage system installed to the second main body frame is adjusted based on a positional relationship between the first main body frame and the second adjustment stage.

21. The manufacturing method for exposure apparatuses according to Claim 20, wherein a partial illumination system at the first object side of the illumination system is slidably installed to the first main body frame, and the partial illumination system is retracted when the first adjustment stage is attached to/removed from the first main body frame and when the stage system is installed.

22. An exposure apparatus which exposes a second object by an exposure beam via a first object and a projection system, comprising:

a main body frame;

an illumination system which includes a partial illumination system which is slidable with respect to the main body frame and illuminates the first object; and

a stage system which can be installed to the main body frame when the partial illumination system is retracted



from the main body frame and aligns the first object and the second object.

23. The exposure apparatus according to Claim 22, wherein the stage system further comprises a first stage and a second stage which aligns the first object and the second object respectively, the second stage is supported by being suspended from the main body frame, and the first stage is supported by the main body frame via a vibration proof member.

24. The exposure apparatus according to Claim 22, wherein the main body frame further comprises a base member, a first member which is placed on the base member via a vibration proof member, and a second member which is placed on the first member via a vibration proof member, the partial illumination system of the illumination system is supported on top of the second member, and the projection system is supported at the base of the second member.

25. The exposure apparatus according to Claim 23, wherein the stage system further comprises a first stage and a second stage which align the first object and the second object respectively, and the first stage is placed on the first member via a vibration proof member.

26. The exposure apparatus according to Claim 25, wherein the stage system comprises a first stage and a second stage which align the first object and the second object respectively, and the first stage is placed on the second member parallel to the partial illumination system.

27. The exposure apparatus according to Claim 22, wherein the illumination system further comprises a support section which supports the partial illumination system and a guide shaft which slides the partial illumination system with respect to the support section.

28. An exposure apparatus which illuminates a second object by an exposure beam via a first object and a projection system, comprising:

- a main body frame having a base member and a first member which is placed on the base member via a first vibration proof member;

- a second member which is placed on the first member via a second vibration proof member so as to hold the projection system;

- a first stage which is supported by the first member so as to align the first object; and

- a second stage which is supported by being

suspended from the first member so as to align the second object,

wherein the first stage and the second stage are removably supported by the first member respectively.

29. The exposure apparatus according to Claim 28, wherein the first stage is supported by the first member via a third vibration proof member.

30. The exposure apparatus according to claim 28, wherein the first stage is supported by the second member parallel to the projection system.

31. The exposure apparatus according to claim 28, wherein a sensor which detects a position of at least one of the second stage and the second object is installed to the second member.

32. The exposure apparatus according to Claim 28, wherein the second stage is a double stage type stage device.

33. A device manufacturing method including a step of transferring a device pattern to a work piece using the exposure apparatus according to Claim 22.

34. A device manufacturing method including a step of transferring a device pattern to a work piece using the exposure apparatus according to Claim 28.

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